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ABSTRACT

The author defines the performance-based curriculum, presents some inherent instructional advantages of and attendant obstacles to its inception, and outlines briefly a case study of the Norfolk Public Schools where performance-based curriculum was instituted with some success. He presents performance-based curriculum as a decentralized information system designed to provide instructional data to interested parties; one that employs the concept "teacher-free" (free of significant individual teacher bias and interpretation) and is characterized by its specificity of competencies to be mastered -- success evidence, facilitative conditions, and student-centered focus. The development of such a system, the author contends, involves a lengthy piecemeal, step-by-step procedure; the ultimate objective being a fundamental, "single flow" information system concentrating on the teaching-learning process and product. In such a system, communication requirements should be pinpointed, methods for treating the data incorporated, and data feedback facilitated. Implementation of the system on a large scale is best facilitated through the employment of electronic data processing. Involvement of teachers and first level administrators in the fundamental decisions required in the planning, development, and operation of the system for the performance-based curriculum is indicated as essential to the success of the program. (Author)

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THE PERFORMANCE-BASED CURRICULUM

by Dr. Roger A. Place

INTRODUCTION

In this talk I will attempt to describe what a performance-based curriculum is, the inherent instructional advantages and the attendant obstacles. With your continued attention I will attempt to briefly outline what has transpired in the Norfolk City Schools for the past two years. Norfolk can act as a case study--one with successes and also with setbacks. However, it will give each of you an idea of the practicality of instituting a performance-based curriculum and let each of you decide if the performance-based curriculum can really perform.

As administrators in the public schools, we are constantly being asked questions by teachers, students, parents, and the public. Some of these questions can best be answered positively if a performance-based curriculum is implemented. Several of the questions offered for consideration are as follows:

What am I teaching to individual students?

How do I know whether students have learned what has been taught at a given time?

What has been the retention of what has been taught to individual students?

What higher levels of intellectual effort can be expected of individual students once they have mastery of minimum expectations?

Why didn't the students learn this last year when they were supposed to?

What am I to teach to individual students?

How can I motivate today's student?

What is the minimum level of expectation for individual students, and do they know in advance what that expectation is?

What is the best way to really examine and refine the schools' instructional program?

What is my child supposed to be learning?

What are the schools supposed to be doing?

After you have stated that my child is lazy, hyperactive, neurotic, or a day dreamer, what are you going to do about it?

What am I to learn and what is expected of me?

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What did the teacher want me to do?

How was I to learn what was on the test? The teacher never taught it!

DEFINITION OF THE PERFORMANCE-BASED CURRICULUM

The performance-based curriculum may be defined as an information system designed to provide instructional data to interested parties. The interested parties, eager to measure educational attainment, include students, teachers, administrators, school boards, and community members.

The performance-based curriculum is designed to provide instructional data. The data centers on performance objectives which for the purpose of this presentation may be considered synonomous with behavioral or instructional objectives. Paul D. Plowman stated:

> An objective can be defined as an aim or a desirable outcome of action. We use it first to direct our effort and then as a yardstick to assess our degree of achievement--how successful we have been in our effort. In this context, the objective is useful in proportion, first, to how specific it is, and, second, to how well we can see or measure its attainment. . .Those objectives that are of greatest value not only describe the behavior sought, but also identify expected levels of proficiency, mediating conditions, and methods for assessing whether or not the expected level of proficiency has been attained.[1]

W. James Popham has developed a criterion-referenced model with four components: (1) specifying objectives; (2) pre-assessing the learner to see where he is in relation to the objectives; (3) designing some kind of instructional sequence that you think will get him there: and (4) evaluating whether the instructional sequences worked.[2]

The performance-based curriculum employs the concept of "teacher-free;" i.e., free of significant individual teacher bias and interpretation. Thus, hypothetically at least, should a teacher be absent for an extended period of time, another teacher could implement the instructional program by basing the instruction on the performance objectives developed by a group of teachers on a peer basis. It is noteworthy of mention that their teaching methods may differ but, hopefully, the student's learning outcomes would be similar. Thus, it remains the teacher's task to select the appropriate methodology and materials to enable each youngster to master the performance objectives and to graphically demonstrate their competency.

The performance-based curriculum has at times been termed a competency-based curriculum. Articulated, spiraling levels of competencies are specified and evaluative measures are designed to test the degree of mastery. Ideally, the youngster can proceed at a self-determined pace, work at convenient times,

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[1]Paul D. Plowman, Behavioral Objectives--Teacher Success Through Student Performance (Chicago: Science Research Associates, Inc., 1971), pp. xxii-xxiii.

[2]W. James Popham, "Practical Ways of Improving Curriculum Via Measurable Objectives," The Bulletin of the National Association of Secondary School Principals, No. 355 (May, 1971), p. 77.

begin the instruction at a point appropriate to past achievement, develop needed skills indicated by diagnostic measures, and working in concert with the teacher, choose the instructional media and technology to achieve the specified outcomes. Thus, the performance-based curriculum is also a competency-based curriculum predicated on an effective and efficient informational system in which all parties know what is expected. It is a personal and individual curriculum for each student based on enunciated scope, sequence, articulation, and spiraling levels of competency.

The performance-based curriculum has enumerated learning outcomes. The competencies to be mastered are specified, acceptable evidence of success is pinpointed, and the conditions to facilitate success are described. Information is systematically gathered so that teachers and other interested parties can make decisions about students and programs as they function throughout time.

Some method of periodic monitoring of the performance-based curriculum is necessary. Out of necessity it must include pretesting, trend testing, and mastery testing. To be implemented on a large scale, the employment of electronic data processing best facilitates this task of monitoring. The feedback provided by the information system indicates the direction of needed corrections and modifications. This is in stark contrast to most of today's instruction systems which operate on a dearth of information about the effectiveness of any given instructional program.

The information system for the performance-based curriculum focuses on the student in the teaching-learning process and product. Information refers to bits of integrated, cohesive, meaningful data. A system is a group of organized, interacting components which are interrelated, integrated, and coherent when considered in entirety. An information system must have some procedure whereby it enters data, integrates and organizes data according to the compoents, stores the data, and retrieves the data upon user interrogation. The information system for the performance-based curriculum will process and organize the data in accord to the various compoenents and will provide this information to parents, teachers, pupils, administrators, school boards, community groups, and citizens. It should again be emphasized that this information system dwells on acquiring, organizing, and providing data on the teaching-learning process and product. The overriding purpose of any system is to provide results and to improve the existing order.

In implementing an information system for the performance-based curriculum, one is not developing a total educational information system in one giant step. Actually, one is developing a fundamental, "single-flow" information system concentrating on the teaching-learning process and product. It is developed in a piece-meal, step-by-step fashion. It takes a minimum of several years' work before the system becomes functional and operational. Communication requirements must be pin-pointed, methods for treating the data must be incorporated, and data feedback must be facilitated.

In order to justify the purchase and maintenance of a computer, school districts across the nation have concentrated on business and financial applications. The generated reports are most frequently dispatched to the upper hierarchial levels of the organization. The reports generated by the information system for the performance-based curriculum are distributed to students, teachers, schoolhouse administrators, and the lower level central office personnel concerned with instruction in the schools. Such functionaries are invariably "line" personnel with responsibilities for the day to day operation of the

classrooms and schools.

The generalizations drawn from industry indicate that the planning, implementation, and overall responsibility for information systems should reside in the hands of "line" personnel. Information systems using this approach are usually implemented in a shorter period of time and function more successfully than those which are controlled and directed by staff specialists in data processing. If we are to apply this lesson, we must make every effort to involve and give significant responsibility to teachers and operating "line" administrators. The knowledge and understanding of existing patterns of organization, coupled with a desire for improvement, requires that the operating administrators play the dominant role. These individuals should rely on the expertise of the staff specialists on a "demand schedule." The changes to be effected will occur in a shorter period of time and be more successful if this stance is implemented.

Consistent with the approach outlined above, the information system should be decentralized so that the first priority for the generated reports is to the teachers and first level administrators. Decision-making should occur at the lowest point in which the needed skills and knowledge can be meshed with the needed information. Thus, teachers would receive individual reports and summarized reports to provide information for individual and peer group action. First and second level administrators would receive summary reports. It is essential that if the middle and higher level administrators receive synthesized reports, that action taken would not be conceived as harassment of teachers and first level administrators.

In determining the frequency of reports to the various personnel, it should be noted that a balance must be established between the time period covered, and the reliability and value of the information. There are dangers inherent in extremely short reporting periods and extremely long reporting periods. The length of the reporting period is probably best determined by the users at the lowest point because it may vary according to individual program needs. The information system is designed as a tool of instruction to report concepts mastered, retained, or prescribed.

There can be no excuse for failing to involve the teachers and first level administrators in this decision as well as in the other fundamental decisions required in the planning, development, and operation of the information system for the performance-based curriculum.

ADVANTAGES OF A PERFORMANCE-BASED CURRICULUM

The performance-based curriculum provides increased flexibility in the instructional program. It enables each child under the teacher's guidance to master the expected competencies. The creativity of the student and teacher is enhanced while they cooperatively work to realize the anticipated learning outcomes.

Teachers, working on a peer basis, develop the performance objectives and the evaluative criteria; e.g., test items for each course. Student input in the development of the objectives should be solicited and student reaction to the evaluative criteria should be encouraged. By requiring that the published system-wide or school-wide performance objectives and evaluative criteria are developed by teachers working together, there is a reduced likelihood of a teacher going off on a tangent and teaching material for an extended period

of time which satisfies his idiosyncracies and self-interests. Unfortunately, the practice of certain teachers to "talk about" material for extended periods of time, which is of interest only to themselves and which is not in the curriculum, occurs frequently enough to be a concern of administrators, school boards, the public, and of crucial concern to students and other teachers. The student's next teacher is often required to teach what has been missed in the previous year as well as what is expected in the current course. What remains are gaps in the instructional program which widen and become more pronounced as the student progresses through the public schools. In short, there is a serious lack of articulation. A performance-based curriculum, to a great extent, can contribute to articulating and spiraling the predetermined levels of knowledge and competency. Another significant advantage of the performance-based curriculum is that students know what is expected of them. There are no secrets of what is to be learned or what will be on the test. With this understanding the student does not try to "outguess" the teacher or spend a great deal of time in floundering over deciding what is to be learned. What is to be learned is specified! Students proceed at their own rate and receive an indication of their progress at regular intervals. The student knows when an objective is mastered. The student has an opportunity to participate actively in evaluating his own performance and acquires a sense of accomplishment and a strengthening of his positive self-image. Students can keep working until mastery and competency are objectively established. The student, in the process, develops a commitment to the objective. If given the performance objectives, the parent can also help the student in the learning situation, resulting in greater home support and stronger school-community relations. This is much better than assigning homework which at times is busy work designed to fulfill parental expectations. With student knowledge of what is expected and the concomitant parental involvement, the stage is set for heightening student motivation. The student may proceed at his own speed in mastering the expected competencies by using individualized or personalized modes of instruction. Therefore, much of the frustration a student encounters in a traditional setting may be minimized with the performance-based curriculum. With the student-based curriculum the student is the focal point. The student can no longer legitimately ask, What am I to be learning? What is expected of me? What did the teacher want me to do? How was I to learn what was on the test t when the teacher never taught it to me? How am I to learn this when the class is going so fast?

A performance-based curriculum will also do much to overcome parent frustration. Teachers offer many diagnoses to account for students who are not doing well. Rarely does the teacher have the necessary information readily at hand to develop a positive plan for improvement for the failing child which is based on accurate and useful data. Once this data becomes available, the student and parent can realize the serious weaknesses, know the nature of the deficiencies, and concentrate on redirection and improvement. Thus, the question, "After you have stated my child is_____, what are you going to do about it?" is moving toward resolution predicated on teacher-student-parent cooperation. The program for improvement is based on specified competencies to be achieved.

As previously stated, a performance-based curriculum is the best means currently available to insure curriculum articulation, scope, and sequence. Not only is content specified but the expected outcomes are clearly enunciated. The objectives are "teacher-free;" i.e., free of individual teacher bias.

Teachers are demanding more responsibility in decision-making and more input into instructional matters. Developing a performance-based curriculum

gives teachers an unprecedented opportunity to specify the curriculum. In fact, the opportunities are of such magnitude that the teachers may need training in "decision-making." It should also be emphasized that the creativity of the teacher and child is enhanced as they develop methods for achieving the expected behaviors.

The performance objectives, if disseminated to community groups and citizens, should result in increased respect for the schools and especially for the teacher. Hopefully, the community status of the teacher will be elevated with this increased knowledge.

Teachers' abilities and the time available to construct reliable and valid test items is becoming more and more of an issue. By pooling test items to measure the attainment of the performance objectives, the teachers can select proven and sound test questions from the pool. Thus, the teacher is eventually relieved of the burden of constructing test items and the teacher role becomes one of selecting promising test items.

Constant evaluation and revision of the curriculum is stressed today because of our rapidly changing society. A performance-based curriculum with its emphasis on constant revision of objectives and(test items) lends itself to this goal much more than the traditional curriculum. The revision of performance objectives and evaluative criteria test items is a mutual task shared by students and teachers. There is an unceasing quest for improvement in the performance-based curriculum which makes it difficult for irrelevant and/or unsuccessful instruction to remain in the curriculum.

OBSTACLES INHERENT IN THE ACHIEVEMENT OF THE PERFORMANCE-BASED CURRICULUM

Most obstacles to implementing a performance-based curriculum are related to teacher acceptance and financial limitations. These two factors are inherent in most educational innovations.

Teacher acceptance is hindered by numerous complaints emanating from certain teachers. The individual teacher finds it increasingly difficult to teach material suited to his or her idiosyncrasies which are not germane to the stated objectives of the instructional program. As Stephens has so succinctly stated:

> . . .We have held that the successful teacher is keenly and consistently interested in many subjects for which other people feel only passing concern. With little or no provocation, the natural teacher holds forth on esoteric or academic topics, lingering lovingly over elementary details. He is impelled, to an unusual extent, to comment on what others may say about the subject of his interest. . . .
>
> Willingness to linger over ideas does not always go hand in hand with exceptional scholarship. The accomplished scholar may be reluctant to keep an idea, particularly an elementary idea, before his

students. . . .[3]

Most seasoned administrators would tend to agree with Stephens' analysis. But are we any longer in a position with the increasingly shrill public criticism to permit individual teachers to pursue their esoteric interests?

Teachers find it difficult, and understandably so, to specify the objectives in measurable terms. They spend a great deal of time in trying to ascertain whether an objective is actually behavioral. This is understandable because of the little training any of us have received in this area.

Across the nation, teachers are demanding more input and decision-making power in educational matters, especially curriculum. It appears they frequently have a difficult time translating this demand into action. The habit of following the textbook and answering the questions at the end of the chapter has been ingrained year after year until this approach is almost unquestioned. Until just recently, teachers have not had much opportunity to depart from this mode. Now that we have an opportunity to depart from this ingrained custom, we find that the necessary decision-making skills are lacking. Thus, an anticipated reaction against the entire project on the part of some teachers occurs. To overcome this, administrators play a crucial role in developing decision-making skills for teachers not only to facilitate the performance-based curriculum, but also for other areas of educational change.

An analogy has been made between dusty curriculum guides in the bottom desk drawer and what will happen to performance objectives. It should be stated at the outset that many authroities have long maintained that the most important aspect of curriculum guides was the experiance the teachers gained in the process of developing them. This same argument can be used in defense of performance objectives. However, as pointed out earlier, a necessary ingredient of a performance-based curriculum is a continuous monitoring program involving pretest, trend, and mastery testing of the performance objectives. This, coupled with the communication of the performance objectives to students and parents, insures that they will become the curriculum base and not be relegated to any desk drawer but, rather, will remain on top of the teacher's desk.

Some teachers become so concerned about developing measurable objectives that they become too specific and believe that anything not capable of measurement does not belong in the performance-based curriculum. This position is untenable in light of the current state of affairs. Many affective areas of the curriculum do not lend themselves to our current methods of measurement. This does not mean they sould be discarded.

Another related danger is that too much teacher time will be spent in trying to determine whether or not something is measurable. In other words, an inordiante amount of time is devoted to deciding whether or not an objective is truly "measurable."

Many of the difficulties encountered with teachers can be minimized if teachers are involved from the beginning. Teachers must be involved in what is being done and how it is being done. There must be a two-way flow of information along the communication chain from teacher to superintendent. If

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[3] J. M. Stephens, The Process of Schooling, A Psychological Examination (New York: Holt, Rinehart and Winston, Inc., 1967), pp. 95, 99.

one link along the chain is neglected or uncommitted, the chain breaks down with adverse teacher reaction. In essence, the teachers must accept the goals they helped develop and maintain a high level of commitment. The vast majority of teachers are willing to work for instructional improvement if they perceive a unity of action and coordination within the system.

The other major category of obstacles is financial. It does take resources to provide the seminars for developing the needed teacher skills in writing the objectives. It takes consultants and materials to make the seminars worthwhile and to yield immediate payoff. It takes financial resources to expedite the actual production and distribution of the performance objectives. Finally, it takes sizeable financial resources to handle the data processing requirements for the pretesting, trend testing, and mastery testing if conducted on a large scale.

In conclusion, the obstacles involving teacher acceptance and financial resources should receive attention and considerable planning. Strategies undoubtedly depend on local conditions.

NORFOLK CITY SCHOOLS AS A CASE STUDY IN THE DEVELOPMENT OF A PERFORMANCE-BASED CURRICULUM

During the 1970-71 school year, central office administrators, principals, and teachers surveyed the educational state of affairs of the Norfolk City Schools Working in concert with Dr. Richard B. Brooks, Dean of the School of Education at the College of William and Mary, the committee developed recommendations for the future direction of the Norfolk City Schools. The recommendations were submitted to the Superintendent of Schools in June, 1971, and shortly thereafter to the School Board. The recommendations called for the development of a performance-based curriculum with work to begin in the 1971-72 school year. With this step towards a performance-based curriculum, the committee hoped to move the Norfolk City Schools into an era of educational accountability.

Educational accountability should be charted, according to the committee, by each school in the division. Competencies for each area/level of instruction were to be described in terms of the student, in terms of observable behavior, and in terms of content or process. Performance objectives were to be developed for each area/level of instruction. Ways and means were to be developed by which it could be determined how the competencies would be measured. Each school in the division was to determine school objectives. Open meetings were to be held to discuss these objectives in each school by faculty, parents, and where applicable, the students. Finally, each school was to indicate reasons for competencies which were being met in whole, in part, or not at all. The performance objectives developed by each school were to form the basis for the performance objectives of the Norfolk City School System.

A suggested timetable for implementation of the committee's recommendations was part of the report. The first activity on the timetable was a conference for administrative and supervisory personnel to be held at the end of June, 1971. The second activity called for the principal to introduce the concept of a performance-based curriculum to his school staff when the teachers reported to school in September. Likewise, the supervisors and department chairmen were also to introduce this concept to their respective subject area teachers in September. During the summer each principal was to develop a Plan of Action for his school in which he was to set forth his plans for developing a performance-based curriculum. Supervisory personnel were also to develop plans for implementing city-wide department chairmen meetings, school department meetings, and inservice training programs for the coming year. Finally, dates were established for reporting to the Assistant Superintendent for Instruction the progress being made towards the achievement of a performance-based curriculum. In conclusion, this represents a cursory review of the tasks which were to be completed in the 1971-72 school year.

In accordance with the above mentioned timetable, an Instructional Conference was held in June, 1971, for the administrative and supervisory staff of the Norfolk City Schools. Dr. R. M. Forster, Assistant Superintendent for Instruction, enumerated six objectives for the school year 1971-72. These objectives, reinforced by memorandum, are as follows:

1. Each school principal will examine with the staff the item analysis of standardized tests data as it relates to his particular school. It is intended that this analysis in the schools will be formed into a documentation of those items which they as a staff do and do not purport to teach.

2. That each principal will submit to his respective instructional division director a plan for the school faculty to determine the desired performance which can reasonably be expected from pupils at each grade level and subject taught. Performance here is defined as what pupils will actually be expected to do after they complete a given amount of work.

The basis for measuring the plan will be the inclusion of the following minimum items:

a. The role the principal will actively take in implementing the plan
b. The establishment of meeting times for faculty participants
c. The extent of supervisory services needed in the plan implementation
d. The provision for compiling progress reports
e. Provision of feedback on the progress of the staff

3. That each principal will report his progress at regular intervals.

4. That performance objectives will be turned over for division-wide instructional goals.

5. The principals will give active guidance to teachers in developing appropriate short and long term objectives and the means for evaluating degree of accomplishment of these objectives.

6. That a monitoring system will be adopted on a monthly basis to determine whether objectives are being met. This monitoring system shall be instituted no later than the school year 1973-74.[4]

Later in the summer, after receiving feedback from the principals requesting more detailed instruction and directions, a memorandum was issued from the Directors of Elementary and Secondary Education. This memorandum repeated and reemphasized the essential points of the Forster address and memorandum, and provided more detailed direction for accomplishing the tasks.

Towards the end of the summer, the Virginia State Department of Education issued the Standards of Quality for school systems and individual schools within the Commonwealth. One of the standards stated:

The principal and the staff shall establish methods of evaluating the progress of individual students and the effectiveness of the instructional program in each classroom and in the school as a whole.[5]

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[4]Dr. R. M. Forster, "Instructional Division Objectives--1971-72," (a memorandum to All Principals, Assistant Principals for Instruction, and Instructional Supervisory Staff, Norfolk, Virginia: Norfolk City Schools, June 28, 1971)

[5]Standards of Quality and Objectives for Public Schools in Virginia, 1972-74 (Richmond, Virginia: State Department of Education, 1971).

In a manual released about one year later, this standard was expanded to include the following:

> An essential element of any educational program is a determination of the extent to which its objectives are achieved. Evaluation focuses on the impact of the educational program on the individual as a person, the measurement of knowledge acquired, and the degree to which skills are mastered. Measurement of the intangible outcomes of education, while difficult, is nonetheless essential. It is generally recognized that sound planning for an ongoing school program must be based on an understanding of how well the existing program is serving its purposes. In addition, the public is demanding a more adequate assessment of educational outcomes as part of its concern for accountability in education. . . .
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> The first step in this task is the development of a statement of educational objectives for each pupil, since such objectives provide the basis for developing criteria for measuring growth. . . .The pupils should take part in this process. . . .
>
> The educational achievement of each individual should be assessed in terms of these objectives. . . .The individual's progress should be monitored continuously and adaptations made as needed in the program. Evaluation instruments should be used which are designed to measure the individual's progress in achieving objectives. Many of these evaluation instruments may be prepared by the teacher.
>
> The second phase of the plan is the evaluation of each classroom. The basic data needed for this phase is information already collected on the ability and progress of each pupil in the classroom. Careful analysis of this information will provide data indicating the degree of progress which has been made by members of the group. When this has been done, generalizations can be made concerning the strengths and weaknesses of the instructional program provided in the classroom. . . .
>
> The third phase of evaluation, which involves the school as a whole, should be derived largely from data already accumulated for individual pupils and for classrooms. Generalizations about the effectiveness of the school as a whole can be drawn from these data. . . .
>
> As in the case of each classroom, when generalizations concerning the achievement of educational purposes in the school as a whole are analyzed strengths and weaknesses will be revealed. Thus, for example, it is possible to assess the degree to which the basic learning skills are being mastered in the school.[6]

In essence, the Commonwealth of Virginia, through legislation, is requiring a performance-based curriculum in every school in every school system throughout the Commonwealth. The above material, coupled with the earlier portion of this address is devoted to defining the performance-based curriculum.

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[6]Manual for Implementing Standards of Quality and Objectives for Public Schools in Virginia, 1972-74 (Richmond, Virginia: State Department of Education, September, 1972), pp. 103-105.

It should gibe each of you a very accurate idea of the nature of the performance-based curriculum.

At the end of the summer, a seminar was scheduled for the administrative and supervisory staff. This day-long seminar included the following activities: Reaction to Mager's Preparing Instructional Objectives;[7] selecting "true" behavioral objectives; identifying methods of evaluation for behavioral objectives; identifying the different domains (cognitive, affective, or psychomotor); developing objective measures to assess performance objectives within each domain; determining levels of behavior within the various domains; distinguishing between a course description and a performance objective; writing behavioral objectives; and enumerating factors or ingredients necessary for a true behavioral objective. The conference was concluded with an evaluation of it.

After the conference each administrative and supervisory staff member had a better idea of the nature of performance objectives and also of a performance-based curriculum. A comprehensive and outstanding Plan of Action was received from one senior high school. This Plan of Action was sent to all other secondary schools in the city as a prototype and also as an example of what could be done. It provided a basis upon which other principals could develop their own Plan of Action. Finally, by the end of the summer, all principals had submitted Plans of Action and most of these Plans of Action had been approved by the Directors of Elementary and Secondary Education.

The orientation program for teachers returning to school in September was predicated on initiating the development of a performance-based curriculum. The immediate tasks of completing the Stanford Achievement Test item analysis and beginning the inservice training program for writing and selecting performance objectives was the focal point of the orientation programs. Several of the VIMCET filmstrips were used as a launching device for the performance objective inservice program.

During the summer and into the fall, the supervisory staff in the central office, as well as teachers and administrators in the schools, were making requests for certain materials to embark on the performance objective program. Among the materials finally selected for the inservice program were the following: the performance objectives developed by the Instructional Objectives Exchange (IOX), Westinghouse performance objectives, performance objectives from the Downers Grove School System, professional journals, the VIMCET filmstrip series on a performance based curriculum, Popham's article entitled, "Practical Ways of Improving Curriculum Via Measurable Objectives,"[8] Mager's book entitled Preparing Instructional Objectives,[9] Plowman's book entitled Behavioral Objectives: Teacher Success Through Student Performance,[10] and Bloom's book entitled Taxonomy

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[7]Robert F. Mager, Preparing Instructional Objectives (Belmont, California: Fearon Publishers, 1962).

[8]Popham.

[9]Mager.

[10]Plowman.

of Educational Objectives.[11] These materials represent what was purchased from all schools and provided the foundation for the inservice program conducted by each school's administrative team. In addition to these materials, individual schools selected other materials which they found appropriate for their needs.

Again it should be noted that the inservice program conducted during the first semester of the 1971-72 school year was being operated at the same time the teachers were actually performing the item analysis on the Stanford Achievement Test Battery results from the previous year. The item analysis project concentrated on determining whether or not we were teaching the material necessary to answer each test item on the Stanford Achievement Test. If the teachers believed we were teaching a concept which the test measured, an attempt was to be made to ascertain our degree of success. If we were not teaching the concept measured by the question, the teachers were to make a judgment concerning whether or not we should be teaching that concept. For each of these decision-making exercises the teachers were to furnish documentation. This documentation was forwarded to the appropriate supervisor at the end of the first semester of the 1971-72 school year. It is interesting to note that in a vast number of cases teachers were not and did not believe that we should be teaching innumerable concepts measured by the Stanford Achievement Test. The results for the next administration of the Stanford Achievement Test showed marked improvement. This may be attributed to the item analysis the teachers performed.

After operating in the schools for approximately one month, numerous requests from principals and teachers were received which requested additional information on the item analysis and performance objective projects. A memorandum was issued to the secondary school principals repeating the fundamental information provided by the two previous memoranda and also providing even more detailed direction, instruction, and clarification. A portion of the memorandum was devoted to establishing dates for the progress reporting of each school to the Director of Secondary Education. Specific directions about the method and content for the faculty inservice program on performance objectives were also provided.

In January, 1972, an Instructional Conference was held for the administrative and supervisory staff members. The conference was devoted to concluding activities for the item analysis project and standardizing the format for developing and submitting the beginning list of performance objectives in June. There was provision for principal and supervisor interaction focusing on these topics.

From February until the end of the school year the individual teachers selected and wrote a beginning list of performance objectives. Periodic meetings were held in the schools so that teachers could function on a peer basis to select those objectives deemed most promising.

While the teachers throughout the school system were doing this, a select group of approximately sixty teachers was being trained in a performance objective workshop during the spring. The consultants for this workshop and training

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[11]Benjamin S. Bloom (ed.), Taxonomy of Educational Objectives (David McKay Company, Inc., 1964).

period were Dr. Mark Gulesian and Dr. Robert Hanny from the College of William and Mary. The training session was primarily unstructured and resulted in decision-making training for a performance-based curriculum. These same teachers later became the writing committee which operated in late spring and early summer. The job of the writing committee was to select, write, and revise the performance objectives submitted by teachers throughout the school system during the second semester of the 1971-72 school year. This committee also reviewed the results of the item analysis done by each faculty and each department within the schools. Before the summer was over, the writing committee had developed a beginning list of performance objectives for the required courses in the secondary schools, numerous elective courses in the secondary schools, and elementary reading and math. These objectives were put into a booklet for each course which is currently serving as a working copy of performance objectives for the teachers throughout the school system this year. A unique approach of the writing committee was the development of a grid system for each course with behavior on the horizontal axis and the content of the course on the vertical axis. The Handbook on Formative and Summative Evaluation of Student Learning,[12] by Bloom, Hastings, and Madaus, provided the basis for the development of the grid system.

At the end of the school year each principal completed a detailed progress report delineating his school's item analysis and performance objective activities for the school year. The beginning lists of performance objectives were submitted to the appropriate subject area supervisor and the writing committee.

An Instructional Conference was held at the end of June for all administrative and supervisory personnel. At this conference a group of teachers selected from the writing committee formed a panel. They reviewed the work and the status of the performance objectives project. Their discussion focused on the following topics: This is what you are doing; This is what you gave us; and This is what we want you to do with it. Also at the Instructional Conference, the requirements for the 1972-73 Plan of Action were outlined for the principals. Several requirements included the development of an educational philosophy for each school and the establishment of goals and objectives for the instructional program. More specific topics included the utilization of performance objectives in various subject areas, organizing the faculty and scheduling staff inservice activities for the performance-based curriculum, requesting additional professional materials needed for faculty study, and requesting needed consultant services.

Toward the end of the summer as the writing committee finished their endeavors and had created a beginning list of performance objectives for distribution to each faculty member in each school, the massive task of typing, duplicating, collating, punching, binding, and distributing these performance objective booklets was initiated. This was a mass production job which required a tremendous amount of administrative ingenuity and drive before it was

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[12]Benjamin S. Bloom, J. Thomas Hastings, and George F. Madaus, Handbook on Formative and Summative Evaluation of Student Learning (New York: McGraw-Hill Book Company, 1971).

finally completed. Upon their return in September, the social studies, science, math, and vocational teachers received their performance objective booklets. The distribution of the booklets for elementary reading and secondary English occurred a little later.

Throughout the summer, with the collaborative involvement of the principals, plans were developed for teacher evaluation of the writing committee's performance objectives, revision of these performance objectives, and development of evaluative criteria (test items) to measure whether or not the objectives were being taught successfully. On September 1, when the teachers returned, they were charged with these tasks also.

During the fall of 1972-73, negative reaction from certain teachers intensified. In essence, these teachers realized that performance objectives would not go away, something which is true in many educational innovations. The most usual objections stressed by these teachers was the time that it takes to revise the performance objectives and also to develop the evaluative criteria to measure them. In a way, their objections to developing the evaluative criteria indicated an inability or unwillingness to develop test items, something all of us in the teaching profession have purported to do for many years. It should be noted at this point that many of the test items developed were usually of the lowest cognitive domain; e.g., recall of specific information. In this regard the test items indicated incongruence with the performance objective cognition level as reflected on the grid. For instance, a simple recall test item would be written to measure a behavior at the synthesis or evaluation level on the grid. Thus, in effect, test items were not equivalent to behavior and content they should have been measuring. Corrective steps have been initiated to resolve this problem. Representatives from the Norfolk City Schools' Testing Department have been working with faculties and individual departments within the schools for inservice training in testing. The principals and supervisors also continued to work with department chairmen and individual teachers. Vast improvement has been noted with the concentrated attention being given to this problem.

During the fall, the Assistant Superintendent for Instruction selected certain central office administrators and teacher organization representatives to travel to Brentwood, New York to evaluate the operation of a performance-based curriculum in a school located in that area. Essentially, the program at Brentwood involves the use of performance objectives and a continuous achievement monitoring program. The continuous monitoring program utilizes a computer for pretesting (assessment of the learner's status), trend testing, and mastery testing. This prototype performance-based curriculum, coupled with the inherent monitoring system, has much potential for practicing school administrators as they attempt to implement this program in their schools.

Later in the fall, an Instructional Conference was held for the administrative and supervisory staff. Everyone was directed to intensify his efforts in working with teachers to develop the revised performance objectives, to write new performance objectives to fill in the gaps, and to develop test items to measure these performance objectives. Dr. R. H. Forster, Assistant Superintendent for Instruction, highlighted Bulletin #1 which was written in

response to teacher requests for additional information concerning the performance-based curriculum. The Bulletin was entitled "The Status of Developing a Performance-Based Curriculum." Principals were urged to discuss this Bulletin with their faculties in general faculty meetings and also to secure group interaction on a departmental basis within their schools. The necessity for teachers to meet periodically on a peer basis and make decisions concerning the worth of individual performance objectives and test items was stressed.

Also in the fall, a proposal was developed for the federal funding of the achievement monitoring system. This proposal had as its objective raising the achievement level for all students and significantly decreasing the discrepancy in achievement between minority group and non-minority group students.

> The Performance-based Evaluation and Achievement Monitoring System (PBEAMS) represents a new direction that appears to hold much promise in accomplishing the stated objectives pertaining to achievement. The unique characteristic of PBEAMS is that it is not a new instructional method, or a new type of curriculum structure, or a fancy piece of machinery, but is, instead, an information system to aid both the student and teacher in understanding what has been learned, what needs to be learned, and what needs to be reviewed.
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> PBEAMS is a systematic procedure for keeping track of each student's progress on every objective in a course at frequent intervals throughout the year. It tells the student the goals he is striving for and the progress he is making towards achieving it. It tells the student which objectives he knew before instruction and which he still must learn. It tells the student which objectives he achieved after being instructed and which objectives he needs to study more. The student is also informed about those objectives he has remembered later in the course and which ones he needs to review.
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> PBEAMS provides the classroom teacher with a wealth of valuable information concerning each student and the class as a whole. It provides the teacher with necessary information about (1) what objectives students have mastered after instruction, (2) the knowledge of students concerning objectives before instruction, and (3) the retention of knowledge concerning objectives previously taught.
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> PBEAMS utilizes the speed and reliability of data processing to provide feedback at regularly spaced intervals throughout the year or semester. PBEAMS does not assume a particular teaching method, ability level, or curriculum. PBEAMS hypothesizes that this type of information system will raise achievement by: (1) increasing motivation to learn by pinpointing objectives that have been mastered and those for which additional study is required; (2) increasing motivation by illustrating success to each individual student and progress, thus eliminating the feeling that schooling is a waste of time; (3) PBEAMS facilitates the individualization of instruction by providing the teacher reliable information concerning performance level of each student within the class; and (4) PBEAMS provides for mastery testing at selected points of time to insure that a student is

neither held back when ready to progress or pushed forward without the necessary skills.

. . .A similar type of information system is currently operational in the Brentwood School System, Long Island, New York, as well as the Hauppuge Public Schools, Hauppuge, New York. Both systems report significant results pertaining to raising the achievement level utilizing the achievement monitoring system.

PBEAMS should be given strong consideration for funding. The logic that speaks to this appeal for funding is that PBEAMS does not promise to be a panacea of the problems of education but is a workable tool to aid both the teacher and student, working together to better understand the educational process and the progress that has been made and needs to be made to accomplish clearly defined objectives.[13]

During the month of January, Dr. R. M. Forster issued Bulletin #2, entitled "Performance-Based Curriculum--A Rationale." It is believed that these first two bulletins have done much to improve communications.

Dr. Albert L. Ayars, Superintendent; and Dr. R. M. Forster, Assistant Superintendent for Instruction, along with three teachers from the elementary and secondary schools, had a television show taped by the Hampton Roads Educational Television Station, WHRO. This taped telecast was viewed several days later, January 26, 1973, by all teachers in the Norfolk City Schools. The participants endeavored to explain the goals, objectives, and methods employed in the performance-based curriculum. They focused on the advantages and obstacles which need to be surmounted, how a performance-based curriculum can facilitate personalized and individualized instruction, and how the overall teaching-learning process and product can be improved through using the performance-based curriculum.

Teachers throughout the city are continuing to revise the beginning list of performance objectives, writing new performance objectives to fill in the gaps, and writing evaluative criteria to measure these performance objectives with peer judgments. The writing committee has already met several times this year and will continue their deliberations throughout the year and into the summer. It is fully expected that by September, each teacher will receive booklets of revised performance objectives accompanied by a pool of evaluative criteria. Currently, plans are being made for a pilot project in several elementary schools, one junior high school, and one senior high school for a continuous achievement and monitoring program utilizing electronic data processing.

Although several difficulties have been encountered in developing a performance-based curriculum, it appears that the Norfolk City Schools is on its way to achieving it. A performance-based curriculum can perform if a school system is willing to commit financial resources and human potential over an extended period of time.

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[13]Dr. Norman D. Holthouse, ESAA Proposal by Department of Research and Special Projects (Norfolk, Virginia: Norfolk City Schools, January, 1973).

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